GOVERNMENT OF INDIA
RAILWAYS
LOK SABHA

STARRED QUESTION NO:339
ANSWERED ON:12.12.2002
BRIDGE INSPECTIONS SYSTEM
SUNIL KHAN

Will the Minister of RAILWAYS be pleased to state:

(a) the systems followed by the Railways to check bridges;

(b) whether the system based on visual inspection and subjective assessment may vary from individual to individual;

(c) if so, whether the Railways maintain inspection records of physical parameters like defections, scour, vibration or dynamic characteristics, strength of components of overall strength or residual life assessment of the component or the bridge structure;

(d) if so, the details thereof; and

(e) if not, the reasons thereof?

Answer

MINISTER OF RAILWAYS (SHRI NITISH KUMAR)

(a) to (e): A statement is laid on the Table of the Sabha.

STATEMENTREFERREDTO IN REPLY TOPARTS (a) TO (e) OF STARRED QUESTION NO.339 BY SHRI SUNIL KHAN TO ANSWERED IN LOK SABHA ON 12.12.02 REGARDING BRIDGE INSPECTIONS SYSTEM

(a): As per the system of inspection of bridges laid down in Codes and Manual, Railway Bridges are thoroughly inspected during i) Routine inspections & ii) Special Inspections. The railway bridges are thoroughly inspected once a year before monsoons by the Section Engineer (Way/Works) and after monsoon by the Assistant Engineer. Divisional Engineer inspects all important Bridges once a year and all other bridges as referred to him by the Assistant Engineers. All inspections are recorded in a Bridge Inspection Register and put up to the territorial Chief Engineer for scrutiny and inspection of bridges which may be referred to him. Condition rating numbers are assigned to various parts of the bridge during inspection. The frequency of the inspection of distressed bridges at various levels is increased and laid down in manuals. The steel super structure of bridges is subjected to detailed technical check once in five years. The floor system of early steel girders are checked once every year. Special inspections are done when required e.g. during floods and/ or during spells of heavy rain.

(b): Any system based on visual inspection anywhere in the world will have an element of subjective assessment. To minimise any detrimental effect, a multi-tier inspection system and inspection once every year have been introduced in the bridge inspection system on Indian Railways. Non destructive testing of bridge is being introduced for which preliminary work has been undertaken by Research Design and Standardization Organisation (RDSO).

(c) to (e): Recording of Camber of steel superstructures over 12.2 metre spans is done during detailed technical checks for which a schedule is laid down. Scour of bridges is recorded during monsoon period. Strength of components or overall strength of bridge is calculated on condition basis where warranted. Guidelines have been issued by RDSO for the assessmentof residual fatigue life of steel super- structures and this is also done on condition basis as assessed during annual inspection.